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20. MAN AND TICKS

It's Possible to Contract Tick-Borne Encephalitis Even Through Fresh Milk

The tick-borne encephalitis virus has a spherical shape with a diameter of 40-50 nanometers. It is surrounded by an external sheath which has small spikes embedded in it. It affects the cerebral cortex, motor neurons of the spinal cord and peripheral nerves. It survives for many years at low temperatures (optimal being -60°C and lower), and in a dried state.

Fact

Ticks cannot tolerate direct sunlight and dry air. The bloodsuckers' favorite places are in damp wooded areas with thick grass. Ticks do not live on trees. Sitting on grass, or on the bushes at the side of the road or the sidewalk, they latch onto clothing. An active tick can establish suction within 15 minutes. The person may not even feel the bite.

Fact

The male tick reaches 2-2.5 mm in length, and the female can reach up to 4 mm. Males, after attaching itself to a person, will drink blood for several hours, and the females, if they aren't found in 10-12 hours can increase in size up to 200-400 times.

Vaccination against tick-borne encephalitis in Yekaterinburg has been completed. The results are deplorable: more than half of the city residents were not inoculated. According to doctors, this season will become one of the worst in recent years.

The number of tick bite cases in the Sverdlovsk oblast has reached 4180, 25 of which have been hospitalized under suspicion of tick-borne encephalitis infection. In Yekaterinburg there have been 1400 cases, with 16 hospitalized. 40 percent of tick bites have occurred within city limits: in city parks, at day care centers and even in public transportation. In addition, several cases of tick-borne encephalitis infection have been registered as being transmitted through fresh cow and goat milk. So begins the new active tick season.

Fact

In Austria, a ten-year-old girl had 150 ticks removed from her body. She picked them up while bicycling in the woods. She was in serious condition when they brought her to the hospital. She was fortunate: According to doctors, she only survived because she had been inoculated against tick-borne encephalitis.

The tick-borne encephalitis virus causes serious changes in the cells of the central nervous system. More often than not, the illness appears within 10-14 hours after infection, and it comes on suddenly. Symptoms manifest themselves as overall weakness, body aches, sleepiness, severe headache, nausea, vomiting, delirium and hallucinations. An increased temperature is accompanied by fever and chills. Within a week, the individual's condition improves significantly, creating the false impression of returning to health.

Within a few days, the fever returns. Indicators that the virus is attacking the nervous system may appear: weakness in an arm or leg, even to the point of immobility, with developing paralysis in the muscles of the neck, to the extent that the victim becomes incapable of independently holding his head up (a symptom known as "dangling head"). Another relatively characteristic symptom of tick-borne encephalitis is the involuntary twitching of individual muscle groups.

Fact

Until the middle of the 1950's, all statistics pertaining to infectious diseases, including encephalitis, were placed into the "Top Secret" category. The Chief Doctors of the Epidemiological Center carried revolvers with them when presenting their reports to the Communist Party of the Soviet Union (CPSU). It was only in 1956 that open records of such diseases began to be kept.

How to Properly Remove an Attached Tick

Smear the insect with butter, fat, kerosene or cover it with the neck of a bottle of water for 10-15 minutes, wait until it dies, after which remove the tick from the skin with a gentle side-to-side motion. It is important not to break the tick apart while removing it - the part remaining in the skin may cause inflammation. and festering.

If a portion of the tick nevertheless remains in the skin, rub the area of the bite with a cotton ball or bandage dampened with alcohol, and then remove the remaining part with a sterile needle. At no time should one apply pressure to the body of the tick, either with fingers or with tweezers. .This could cause pathogens to be released into microscopic cracks in the skin. Never remove the tick with your teeth - the infection can be transmitted orally. After the insect has been removed, apply an alcohol or iodine tincture to the affected skin. The individual who removed the tick should wash his hands very carefully with soap.

Fact

In the 1930's, an unidentified disease literally mowed down the citizen victims of repression who had been exiled to camps in the Russian Far East. A brigade of doctors which was sent by the military leadership, headed by Professor Chumakov, was not only the first to isolate the encephalitis virus and determine its carriers, but also created the first vaccine from the brains of white mice. In the course of the work, nearly all laboratory workers became infected and died. Professor Chumakov himself was paralyzed as a result. The first natural breakout of encephalitis in the Sverdlovsk Oblast was registered in the 1940's.

Last year in Yekaterinburg, two people died of tick-borne encephalitis. A 45-year-old man was admitted to the hospital already showing symptoms of the disease. Seven ticks were removed from the victim. He was not inoculated or vaccinated. He died within a week of arriving at the hospital.

The second to succumb was a 68-year-old retiree who arrived at the hospital with serious multilevel damage to the nervous system. He remained on a respirator for approximately two months, at which time he died.

How to Properly Preserve a Tick for Laboratory Analysis

Place the insect in a glass jar or plastic bag. As soon as possible, bring the tick to a laboratory for analysis. Place a piece of damp cloth in the jar and refrigerate it or keep it in another cool place.

More often than not, it is those who have not been inoculated and were not administered an antibody injection immediately after being bitten, who develop tick-borne encephalitis in its fullest form, including its final lethal outcome.

The only thing that might somehow save those who have not received the inoculation is for them to look out for their own safety. It is necessary to examine the skin of the scalp, behind the ears, under the arms, the groin area and the neck very carefully, and to check clothing as well.

The tick-borne encephalitis vaccine used today is referred to as "dead": an individual is injected with an inactive, dead virus. It is for just this reason that it is relatively weak and is not taken well by the body. In the 1970,s the immunologist Dubov proposed injecting a "live" vaccine. Its tests on animals were successful, and they began to test it on people. But they were unable to restrain the aggressive biological characteristics of the virus, even in a weakened state. The injected volunteers began to experience complications, and several individuals developed the most serious form of the disease, and ended up paralyzed. The experiment was covered up, but scientists believe to this day that it is realistic to create an effective "live" vaccine, but it would require extensive genetic research, at an enormous financial cost.

Fact

Scientists have identified a total of eleven types of ticks which are capable of carrying encephalitis. These insects are successfully conquering the world, and the encephalitic arthropods can even be found at the most prestigious resorts. For example, in the 1980's, birds carried the dangerous Taiga tick to the Baltic region. Practically all the countries of Europe, Asia and Africa can boast of having encephalitis. Even near Chukotka, scientists found a carrier and isolated a culture of the disease.